

CLAIMS

1. Drilling device with a multiblade drilling tool (17), particularly a deep drilling tool, with at least two supply channels (19, 20) by means of which cooling lubricant (28) is supplied to the cutting zone (18), as well as removal channels (35, 36) by means of which the cooling lubricant and chips are removed, characterized in that with the channels (19, 20, 35, 36) are associated independent cooling lubricant supply devices (25, 26; 64).
2. Drilling device according to claim 1, characterized in that the supply devices (25, 26; 64) are constructed for maintaining predetermined, separate volume flows of the cooling lubricant (28) for the individual channels (19, 20, 35, 36).
3. Drilling device according to claim 1 or 2, characterized in that the supply devices (25, 26; 64) are constructed for increasing the cooling lubricant pressure in the case of a reduction of the volume flow in one of the channels (19, 20, 35, 36) as a result of a blockage.
4. Drilling device according to one of the preceding claims, characterized in that independent pumps (25, 26) or pump chambers are connected to the channels (19, 20).
5. Drilling device according to one of the preceding claims, characterized in that the channels are connected to the outlets of a quantity divider (64).
6. Drilling device according to one of the preceding claims, characterized in that the channels are connected to a cooling lubricant supply (23, 24), which is located in a drilling spindle (15) or an adapter (30, 30a), optionally containing a quantity divider (64) and which optionally contains the chuck (16) for the drilling tool (17).
7. Drilling device according to one of the preceding claims, characterized by a rotary duct (22) for the cooling lubricant (28).

8. Drilling device according to one of the preceding claims, characterized in that the introduction of the cooling lubricant (28) into the drilling tool (17) or drilling spindle (15) takes place radially, axially or radially and axially.
9. Drilling device, particularly according to one of the preceding claims, characterized in that chip spaces (74) formed in a working rotation direction (73) of a multiblade drilling tool (17), upstream of the blade (71) and connected to chip removal channels (35, 36), in cross-section have a rounded side wall (75) following on to the blade (71).
10. Drilling device according to claim 9, characterized in that the chip removal channels (35, 36) also have a rounded side wall (75).
11. Drilling device according to claim 9 or 10, characterized in that the rounded side wall (75) extends approximately up to a drilling tool centre plane (77) perpendicular to the blade (71).
12. Drilling device according to one of the preceding claims, characterized in that, in the vicinity of the drilling tool external diameter, the rounded side wall (75) bounds a substantially circumferentially directed projection (79) projecting into the chip space (74) and on whose outside is preferably formed a guide zone (80) for the drilling tool.
13. Drilling device according to one of the claims 9 to 12, characterized in that the rounded side wall (75) has the cross-sectional shape of a semicircle or half a long oval.
14. Drilling device, particularly according to one of the preceding claims, characterized in that in the case of a multiblade drilling tool (19), at least one of the blades (71a), considered in an axial plan view on the drilling tool end face (21), has a bend (84), where two blade sections (71, 85) meet under an angle, preferably between 170° and 120°.

15. Drilling device according to one of the claims 9 to 14, characterized in that the chip space (74) is shaped in accordance with the side wall and/or blade direction.
16. Drilling device according to one of the claims 9 to 15, characterized in that the drilling tool (17) has a cutting head (31) and a shank (32) applied thereto, the shank (32) having recesses forming chip removal channels (35, 36) and the cross-sectional shape thereof corresponds to the chip spaces (74).
17. Drilling device according to one of the preceding claims, characterized by an adapter (30, 30a) with independent cooling lubricant infeeds in two separate supply channels (19, 20) in drilling tool (17).
18. Drilling device according to claim 17, characterized in that a quantity divider (64) is provided in adapter (30a).
19. Drilling device according to one of the claims 17 and 18, characterized in that the adapter (30, 30a) contains a chuck for the drilling tool (17).
20. Drilling device according to one of the preceding claims, characterized in that a drilling spindle (15) is mounted in a headstock (18) and there is a separate cooling lubricant infeed for the two channels (19, 20) into drilling spindle (15), preferably at the end of the drilling spindle (15) remote from the drilling tool (17).